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| 10/760,536 | 01/21/2004 | Daisuke Fujiwara | 327339M097 | 1108 |
| 441 7590 08/04/2009 SMITH, GAMBRELL & RUSSELL 1130 CONNECTICUT AVENUE, N.W., SUITE 1130 WASHINGTON, DC 20036 | | | | |
| EXAMINER HYDER, G.M. ALI | | | | |
| ART UNIT 2852 | | PAPER NUMBER | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/760,536

Applicant(s)

FUJIWARA, DAISUKE

Examiner

G.M. HYDER

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 9, 10, 12-14, 17, 18 and 20 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 8, 11, 15, 16 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/9/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Detailed Office Action

Foreign Priority Acknowledged

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement filed 8/9/2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the sole foreign document listed in the submission did not include an English translation and thus the content of the foreign document could not be considered. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Title not Descriptive

The title of the invention is not descriptive. The title does not reflect the main inventive concept of mounting mechanism of exposure unit. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claims 4 and 14 objected to because of the following informalities: the recitation of "the shafts" and "the fitting holes" lacks proper antecedent bases. Appropriate correction is required.

Claims 8 and 15 are objected to because of the following informalities: the recitation of "cap-shaped" pressing member is an indefinite structure. The structure claimed by cap-shaped requires clarifying attributes. Appropriate correction is required

Claim Rejections under 35 USC §103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-6, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (US-4,743,927) in view of Kimura (US-5,475,484).

Regarding claims 1 and 13, Sasaki discloses an image forming apparatus (see Fig. 1) comprising a pair of stationary side walls (frame 20) arranged in an image forming apparatus body and a {plurality of} photosensitive drum unit (sensitive drum 2) supported between the stationary side walls (20), wherein each of the photosensitive drum units comprises {a drum-holding frame} for holding a photosensitive drum, an exposure means-holding frame (substrate end cap 6) for holding the exposure means (LED element 6b), and a pressing means (spring 12) for pressing the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum (see Fig. 2).

However, Sasaki does not explicitly disclose a plurality of photosensitive drum units and drum-holding frame.

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Kimura discloses an image forming apparatus comprising a plurality of photosensitive drum units (drum units 100) for printing in color and drum-holding frame (table 130) for supporting the photosensitive drums (1).

It would have been obvious to one of ordinary skill in the art to modify *Sasaki* to include the plurality of drums according to a teaching of Kimura in order to print in color.

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May 10, 1988

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4,743,927

FIG. 1

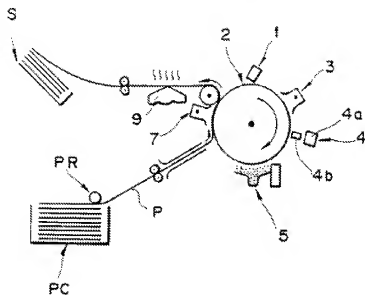
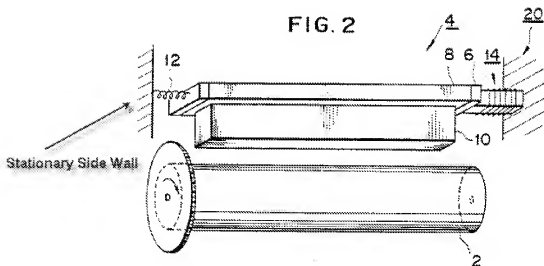


FIG. 2



Regarding claims 2 and 14, *Sasaki* in view of *Kimura* discloses an image forming apparatus according to claim 1 and 13 respectively, wherein *Sasaki* further discloses the pressing means (spring 12) is disposed on one side of the drum-holding frame (20) so as to press the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.

Regarding claim 3, *Sasaki* in view of *Kimura* an image forming apparatus according to claim 1, wherein *Sasaki* further discloses the pressing means (12) comes pushed in contact with one stationary side wall and is pushed to press-contact part of the other side of the exposure means-holding frame to the other stationary side wall, so that the exposure means-holding frames are aligned to each other, at predetermined positions in an axial direction, with the other stationary side wall as a reference (see *Sasaki* Fig.2).

Regarding claim 5, *Sasaki* in view of *Kimura* discloses an image forming apparatus according to claim 1, wherein *Kimura* (in an alternative view) further discloses first positioning projections (transmission shaft 122, second axial end portion 59) having axes common to the axis of the photosensitive drum (photoconductive drum 1) are disposed on both side walls (end portions of 130) of the drum-holding frame (130, see Fig. 4 of *Kimura*), second positioning projections (second supporting portions 161) in parallel with the axis of the photosensitive drum (1) are disposed on both side walls of the exposure means-holding frame, and a first positioning groove and a second positioning groove for positioning the first positioning projection and the second positioning projection that are inserted therein are formed in the stationary side walls (50, 51).

Regarding claim 6, *Sasaki* in view of *Kimura* discloses an image forming apparatus according to claim 5, wherein the first positioning projections (122, 59) disposed on both side walls of the drum-holding frame are constituted by the shaft of the photosensitive drum (see fig. 4).

Claims 9, 10, 12, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sasaki* in view of *Kimura* as applied to claim 1 above, and further in view of Nagamine et al. (US-2002/0149664 A1) hereinafter referred to as simply *Nagamine*.

Regarding claims 9 and 17, *Sasaki* in view of *Kimura* discloses an image forming apparatus according to claim 1.

However, *Sasaki-Kimura* combination does not disclose an image forming apparatus, wherein the exposure means (6b) is held by the exposure means-holding frame so as to adjust the position thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

In the same filed of endeavor, *Nagamine* discloses an image forming apparatus wherein the exposure means (self-focus lens array SLA 2) is held by the exposure means-holding frame (holder 4) so as to adjust the position thereof in the radial direction relative to the peripheral surface of the photosensitive drum (photoconductive drum 6).

Therefore, it would have been obvious to one of ordinary skill in the art to modify *Sasaki-Kimura* combination to include a feature so as to adjust the distance between the surface of the photosensitive drum peripheral surface and the exposure means according to a teaching of *Nagamine* in order to keep the photosensitive drum peripheral surface at the focal point of the exposure means for obtaining a focused image at all times.

Regarding claims 10 and 18, *Sasaki* in view of *Kimura* and further view of *Nagamine* discloses an image forming apparatus according to claim 9 and 13 respectively, wherein *Nagamine* further discloses both side portions of the exposure means are supported by the exposure means-holding frame via a radial direction position adjusting means capable of adjusting the positions thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

Regarding claims 12 and 20, *Sasaki* in view of *Kimura* discloses an image forming apparatus according to claim 1 and 13 respectively, wherein both *Sasaki* and *Kimura* disclose the exposure means comprises an LED head.

Allowable Subject Matter

Claims 4, 7-8, 11, and 15-16 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claims 4 and 15 the prior art does not disclose or suggest an image forming apparatus or a photosensitive drum unit wherein "the exposure means-holding frame is supported so as to move in the axial direction relative to the drum-holding frame by fitting the shafts or the fitting holes disposed on both side walls that define both sides of the exposure means-holding frame to the fitting holes or the shafts disposed on both side walls of the drum-holding frame, and axes of the shafts or the fitting holes disposed on both side walls of the exposure means-holding frame and the axes of the fitting holes or the shafts disposed on both side walls of the drum-holding frame are arranged on a common imaginary axis line in

parallel with the axis of the photosensitive drum, which is on a common imaginary axis line on the peripheral surface where an image is focused by the exposure means, of the photosensitive drum" *inter alia* other claimed features.

Regarding claims 7, the prior art does not disclose or suggest an image forming apparatus wherein the second projection disposed on the other side wall of the exposure means-holding frame is constituted by a positioning/pushing shaft in combination with other claimed features.

Regarding claims 8 and 15, the prior art does not disclose or suggest an image forming apparatus or a photosensitive drum unit wherein the pressing member is so disposed as to protrude beyond one side of the drum-holding frame in combination with other claimed features.

Regarding claim 11 and 19, the prior art does not suggest or disclose an image forming apparatus wherein a fitting hole and a bottom walls claimed in association with an exposure-holding unit in combination with other claim features.

Regarding claim 16, the prior art does not disclose or suggest a photosensitive drum unit wherein "the exposure means-holding frame is supported so as to move in the axial direction relative to the drum-holding frame by fitting the shafts or the fitting holes disposed on both side walls" among other claimed features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G.M. HYDER whose telephone number is (571)270-3896. The examiner can normally be reached on Monday - Thursday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. In case, you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Gray/
Supervisory Patent Examiner,
Art Unit 2852

GH 7/29/09